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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/583,966	04/20/2007	Katsuichi Yagisawa	0649-1323PUS1	1502
2292 7590 07/13/2011 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747				
EXAMINER DUNWOODY, AARON M				
ART UNIT 3679		PAPER NUMBER		
NOTIFICATION DATE 07/13/2011		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/583,966

**Applicant(s)**

YAGISAWA ET AL.

**Examiner**

AARON DUNWOODY

**Art Unit**

3679

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 May 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4,5,7-10 and 12-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7-10 and 12-23 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-945)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Specification***

The incorporation of essential material in the specification by reference to an unpublished U.S. application, foreign application or patent, or to a publication is improper. Applicant is required to amend the disclosure to include the material incorporated by reference, if the material is relied upon to overcome any objection, rejection, or other requirement imposed by the Office. The amendment must be accompanied by a statement executed by the applicant, or a practitioner representing the applicant, stating that the material being inserted is the material previously incorporated by reference and that the amendment contains no new matter. 37 CFR 1.57(f). In particular, what contents of Japanese Patent Application No. 2003-425960, filed December 22, 2003, are being incorporated by reference.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 4, 5, 7-10 and 12-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US patent 6540264, Yokoyama et al in view of US patent 6129393, Kodama et al, US patent 4772052, Morin and United States Patent Application Publication US 2002/0158465, Tsurumi.

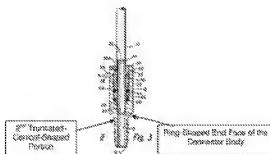
In regards to claim 1, Yokoyama et al disclose a resin tube-equipped quick connector for connecting a fuel- transporting resin tube (13) to a mating pipe, comprising a connector body (11), a retainer (19) and a seal member (15, 17); wherein the connector body has a generally tubular shape as a whole, has a retainer holding portion adapted to receive and hold the retainer in an axial opening at one axial end thereof, and also has at an opposite axial end thereof, a press-fitting portion which is press-fitted into the interior of the resin tube from one end thereof, wherein an exterior of the press-fitting portion comprises the following portions along an axial length thereof, one immediately after another: a first truncated-conical-shaped portion (14a) extending from a ring-shaped end face on a tip end of the press-fitting portion; a first cylindrical-shaped root portion, a first truncated-conical-shaped annular projection followed by a second cylindrical-shaped root portion, a second truncated-conical-shaped annular projection followed by a third cylindrical-shaped root portion, wherein the retainer holding portion includes first and second windows opening through opposite curved sides thereof, wherein the retainer includes a first arc-shaped portion which projects outwardly into the first window of the retainer holding portion, and a second arc-shaped portion which projects outwardly into the second window of the retainer holding portion, wherein the retainer includes a retainer-side engagement portion having first and second arc-shaped windows which open on opposite sides thereof in a radial direction, which are adapted to engage with a convex pipe-side engagement portion from a radially-inward side, formed on an outer peripheral surface of the mating pipe and spaced from an axial insertion-side end thereof, so as to fix the inserted mating pipe in

the axial direction; and when the mating pipe is fixed in an axial direction in the retainer, and the retainer is held in the connector body, the convex engagement portion of the mating pipe is visible when viewed through each of the first and second windows of the retainer holding portion, wherein the seal member is mounted within the connector body at an inner region thereof disposed closer to the press-fitting portion than the retainer holding portion is disposed, and the seal member is brought into contact with an outer peripheral surface of an insertion end portion of the inserted mating pipe disposed closer to a distal end of the mating pipe than the pipe-side engagement portion is disposed, thereby forming an air-tight seal between the insertion end portion and an inner surface of the connector body; and wherein the resin tube includes a press-fit undergoing portion into which the press-fitting portion is press-fitted. Yokomaya et al do not disclose a C-shaped retainer. Kodama et al teach a C-shaped retainer can be deformed so that it can be reused repeatedly a number of times (abstract). As Kodama et al relate to a male member and a female member which are connected with each other to connect hoses or pipes for transferring a variety of fluids, it would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate a C-shaped retainer to be deformed so that it can be reused repeatedly a number of times, as taught by Kodama et al. Yokomaya et al do not disclose a second truncated-conical-shaped portion, which ends abutting with a ring-shaped end face of the connector body; however, Yokomaya et al do disclose a second truncated-conical-shaped portion in Figure 1 below.



It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the second truncated-conical-shaped portion, which ends abutting with a ring-shaped end face of the connector body, since a change in the shape of a prior art device is a design consideration within the level of skill of one skilled in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

Further, in Figure 3 below, Morain teaches a second truncated-conical-shaped portion, which ends abutting with the ring-shaped end face of the connector body. As Morain relates to an improved highly effective coupling which can be very expeditiously employed to connect one tubular member to another tubular member, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a second truncated-conical-shaped portion, which ends abutting with the ring-shaped end face of the connector body, since a change in the shape of a prior art device is a design consideration within the level of skill of one skilled in the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).



Yokoyama et al disclose three truncated-conical-shaped annular projections. In Figure 1, Tsurumi teaches two truncated-conical-shaped annular projections to engage a hose with less stress than three truncated-conical-shaped annular projections. It would have been obvious to one having ordinary skill in the art at the time the invention was made to fabricate the connector with two truncated-conical-shaped annular projections to engage a hose with less stress than three truncated-conical-shaped annular projections.

Further, the omission of an element and its function in a combination, where the remaining elements perform the same functions as before, involves only routine skill in the art. In re Kuhle, 526 F.2d 553, 188 USPQ 7 (CCPA 1975); In re Karlson, 311 F.2d 581, 136 USPQ 184 (CCPA 1963).

In regards to claim 2, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the retainer is elastically deformable radially, a retainer-side retaining engagement portion is capable of being fitted to a body-side retaining engagement portion, formed at the retainer holding portion of the connector body, from a radially-inward side to be retained and fixed in the axial direction, the retainer also including: at

least one of an inner peripheral cam surface for elastically expanding the retainer when inserting the mating pipe into the retainer and an outer peripheral cam surface for elastically reducing the diameter of the retainer when inserting the retainer into the retainer holding portion.

In regards to claim 4, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose a protector is fitted on the resin tube to cover an outer peripheral surface of the resin tube.

In regards to claim 5, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the resin tube has a multi-layer structure an inner layer of the resin tube is more excellent in gasoline resistance than an outer layer.

In regards to claim 7, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the resin tube includes an inner diameter of not larger than 5 mm.

In regards to claim 8, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose a resin tube-equipped quick connector for connecting a fuel-transporting resin tube to a mating pipe, comprising: a connector body, a C-shaped retainer and a seal member; wherein the connector body has a generally tubular shape as a whole, and has a retainer holding portion adapted to receive and hold the C-shaped retainer in an axial opening at one axial end thereof, and also has at an other axial end thereof, a press-fitting portion which is press-fitted into the interior of the resin tube from one end thereof; wherein an exterior of the press-fitting portion consists of the following portions along an axial length thereof, one immediately after another: a first truncated-conical-shaped portion extending from a ring-shaped end face on a tip end of



the press-fitting portion; a first cylindrical-shaped root portion, a first truncated-conical-shaped annular projection followed by a second cylindrical-shaped root portion, a second truncated-conical-shaped annular projection followed by a third cylindrical-shaped root portion, a second truncated-conical-shaped portion, which ends abutting with a ring-shaped end face of the connector body, wherein the retainer holding portion includes first and second box-shaped windows opening through opposite curved sides thereof; wherein the C-shaped retainer includes a first arc-shaped portion which projects outwardly into the first box-shaped window of the retainer holding portion, and a second arc-shaped portion which projects outwardly into the second box shaped window of the retainer holding portion, wherein the C-shaped retainer includes a retainer-side engagement portion having first and second arc-shaped windows which open on opposite sides thereof in a radial direction, which are adapted to engage with a convex pipe-side engagement portion from a radially-inward side, formed on an outer peripheral surface of the mating pipe and spaced from an axial insertion-side end thereof, so as to fix the inserted mating pipe in the axial direction; and when the mating pipe is fixed in an axial direction in the C-shaped retainer, and the C-shaped retainer is held in the connector body, the convex engagement portion of the mating pipe is visible when viewed through each of the first and second windows of the retainer holding portion, the seal member is mounted within the connector body at an inner region thereof disposed closer to the press-fitting portion than the retainer holding portion is disposed, and the seal member is brought into contact with an outer peripheral surface of an insertion end portion of the inserted mating pipe disposed closer to a distal end of

the mating pipe than the pipe-side engagement portion is disposed, thereby forming an air-tight seal between the insertion end portion and an inner surface of the connector body; and a press-fit undergoing portion of the resin tube, into which the press-fitting portion is to be press-fitted, has an inner diameter that is expanded prior to press-fitting, and the press-fit undergoing portion is press-fitted in the tube diameter-expanded press-fit undergoing portion to be integrated therewith in a withdrawal-preventing condition.

In regards to claim 9, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the first truncated-conical-shaped annular projection is closer to a distal end of the press-fitting portion than the second truncated-conical-shaped annular projection.

In regards to claim 10, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the first truncated-conical-shaped annular projection is closer to a distal end of the press-fitting portion than the second truncated-conical-shaped annular projection.

In regards to claim 12, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose no portion of the press-fitting portion has an outer diameter larger than an outer diameter of each of the truncated-conical-shaped shaped annular projections.

In regards to claim 13, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose no portion of the press-fitting portion has an outer diameter larger than an outer diameter of each of the truncated-conical-shaped shaped annular projections.

In regards to claim 14, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the axial length L of the press-fitting portion is 14.5mm.

In regards to claim 15, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the axial length L of the press-fitting portion is 14.5mm.

In regards to claim 16, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose a bushing mounted within the connector body at a region deeper than the retainer holding portion.

In regards to claim 17, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose a coupling structure of a quick connector and a resin tube for connecting a fuel- transporting resin tube to a mating pipe, comprising: a connector body, a retainer, and a seal member; wherein the connector body has a generally tubular shape as a whole, and has a retainer holding portion at one axial side thereof, and also has at the other side thereof a press-fitting portion which is press-fitted into the interior of the resin tube from one end thereof, wherein an exterior of the press-fitting portion consists of the following portions along an axial length thereof, one immediately after another: a first truncated- conical-shaped portion extending from a ring-shaped end face on a tip end of the press-fitting portion; a first cylindrical-shaped root portion, a first truncated-conical- shaped annular projection followed by a second cylindrical-shaped root portion, a second truncated-conical-shaped annular projection followed by a third cylindrical- shaped root portion, a second truncated-conical-shaped portion, which ends abutting with a ring- shaped end face of the connector body, wherein the retainer holding portion includes first and second windows opening through opposite

curved sides thereof, wherein the retainer is a member adapted to be held in the retainer holding portion, and includes: a first arc-shaped portion which projects outwardly into the first window of the retainer holding portion, and a second arc-shaped portion which projects outwardly into the second window of the retainer holding portion, and a retainer-side engagement portion having first and second arc-shaped windows which open on opposite sides thereof in a radial direction, which are adapted to engage with a convex pipe-side engagement portion from a radially-inward side, formed on an outer peripheral surface of the mating pipe and spaced from an axial insertion-side end thereof, so as to fix the inserted mating pipe in the axial direction; and when the mating pipe is fixed in an axial direction in the retainer, and the retainer is held in the connector body, the first and second arc-shaped recesses engaging the convex or concave pipe-side engagement portion of the mating pipe are located under each of the first and second windows of the retainer holding portion, wherein the seal member is mounted within the connector body at an inner region thereof disposed closer to the press-fitting portion than the retainer holding portion is disposed, and the seal member is brought into contact with an outer peripheral surface of an insertion end portion of the inserted mating pipe disposed closer to a distal end of the mating pipe than the pipe-side engagement portion is disposed, thereby forming an air-tight seal between the insertion end portion and an inner surface of the connector body; and wherein the resin tube is a small-diameter tube having an inner diameter of not larger than 5 mm, wherein the resin tube includes a press-fit undergoing portion into which the press-fitting portion is press-fitted.

In regards to claim 18, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the retainer is elastically deformable radially, and a retainer- side retaining engagement portion is capable of being fitted to a body-side retaining engagement portion, formed at the retainer holding portion of the connector body, from a radially- inward side to be retained and fixed in the axial direction, the retainer also including: at least one of an inner peripheral cam surface for elastically expanding the retainer when inserting the mating pipe into the retainer and an outer peripheral cam surface for elastically reducing the diameter of the retainer when inserting the retainer into the retainer holding portion.

In regards to claim 19, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose a protector fitted on the resin tube to cover an outer peripheral surface of the resin tube.

In regards to claim 20, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the resin tube has a multi-layer structure, having at least an inner layer and an outer layer, the inner layer being more resistant to gasoline than is the outer layer.

In regards to claim 21, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose the resin tube comprises a polyamide resin.

In regards to claim 22, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose an outer diameter  $d_6$  of a root portion provided between the first and second truncated-conical-shaped annular projections and an inner diameter of the tube diameter-expanded press-fit undergoing portion are substantially the same, and wherein

an the axial length L of the press-fitting portion and an axial length of the press-fitting undergoing portion are substantially the same.

In regards to claim 23, Yokoyama et al in view of Kodama et al, Morain and Tsurumi disclose before the press-fitting portion is press-fitted into the press-fit undergoing portion, the press-fit undergoing portion is formed with an inner diameter that is substantially equal to an outer diameter of the root portions of the press-fitting portion, and after the press- fitting portion is press-fitted into the press-fit undergoing portion of the resin tube, the press- fit undergoing portion is adapted to cause portions of its inner diameter facing the root portions to become equal to the outer diameter of the root portions, so that and the press-fit undergoing portion is integrated with the press-fitting portion in a withdrawal-preventing condition.

### ***Response to Arguments***

Applicant's arguments with respect to claims above have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON DUNWOODY whose telephone number is (571)272-7080. The examiner can normally be reached on 7:30 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571)272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AARON DUNWOODY/

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Primary Examiner, Art Unit 3679

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